

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2018 / 2019

TSA 2131 – SYSTEMS ANALYSIS AND DESIGN

(All sections / Groups)

22 October 2018
9.00 a.m. – 11.00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of 5 pages including the cover page.
2. Attempt **ALL** questions. The distribution of the marks for each question is given.
3. Please print all your answers in the Answer Booklet provided.
4. For Question 4(a), please print your answers in the appendix A provided and submit together with the answer booklet.

QUESTION 1

- (a) List THREE (3) key principles of Agile Methodologies.
(3 marks)
- (b) What are the useful character traits required by an analyst involved in requirements determination?
(2 Marks)
- (c) What is outsourcing? Identify TWO (2) reasons for outsourcing.
(3 Marks)
- (d) Define each of the following terms: well-structured relation, functional dependency, primary key, and normalization.
(4 Marks)

QUESTION 2

- (a) Compare and contrast between Baseline Project Plan (BPP) and Project Scope Statements (PCS). How do BPP and PCS support system planning?
(4 Marks)
- (b) Evaluate THREE (3) major activities in project identification and selection. Why project identification and selection are important for system planning?
(5 Marks)
- (c) How can Data Flow Diagram (DFD) be used as a gap analysis tool of system processing modelling?
(3 Marks)

QUESTION 3

- (a) A project has been defined to contain the following list of activities along with their required times for completion.

Activity	Time	Immediate Predecessors	T_E	T_L	Slack	Critical Path?
A	5	--				
B	3	A				
C	4	A				
D	6	C				
E	4	B, C				
F	1	D				
G	5	D, E, F				

Note: please copy the table above as part of your answer.

- (i) Complete the table above and construct a network diagram based on the activities. For each activity, identify its early finish time, late finish time, and slack. (4 marks)
- (ii) Identify the critical path in the diagram. (1 mark)
- (b) Draw a use case diagram for the following scenario, showing relationships between different use cases. (3 Marks)

A journal paper is written by a group of authors, and accepted to be published by a journal. The journal is then subscribed by a university library for reading purpose. Include extend and use relationship, whenever applicable.

- (c) Create a context diagram for a real estate system. The external entities include the buyer and seller, whereby the buyer will ask for the house information based on his/her requirement and the seller will provide the information through the system.

(4 Marks)

QUESTION 4

- (a) Assume a proposed information system has a useful life of 5 years, with monetary benefits at RM 85,000 per year, a one-time cost of RM65,000 and a recurring cost of RM 40,000 per year. If the discount rate is 12%, calculate the following:
- (i) Net Present Value (NPV) of these costs and benefits of an information system based on the sheet given in the appendix A. (6 marks)
 - (ii) Find the point of breakeven. (2 marks)

Note: Please round to the nearest 4 decimal places for discount rate and the nearest integer value for Present Value (PV).

- (b) Calculate the present value at \$2,000 one year from now, assuming a 10% discount rate. (1 Mark)
- (c) How can disruptive technologies be related to Business Process Reengineering? (3 Marks)

QUESTION 5

- (a) Compare and contrast between form and report design in terms of the deliverables for their system creation. (3 Marks)
- (b) Briefly differentiate between stub testing and unit testing? (2 marks)
- (c) "Migrate info system to a different operating environment" is a type of corrective maintenance.

Do you agree with the above statement? Defend your answer.

(4 marks)

- (d) Appraise THREE (3) different structures of managing maintenance personnel. (3 marks)

End of Paper

Appendix A: Answer Sheet for Question 4 (a)

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Totals
Net Economic Benefit							
Discount Rate							
PV of Benefits							
NPV of all Benefits							
One-Time Cost							
Recurring Costs							
Discount Rate							
PV of Recurring Costs							
NPV of all Costs							
Overall NPV							
Return of Investment (ROI)							
Break-even Analysis							
Yearly NPV Cash Flow							
Overall NPV Cash Flow							

PV – Present Value

NPV – Net Present Value